THE

BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LXXV. THURSDAY, AUGUST 9, 1866. NO. 2.

CEREBRO-SPINAL MENINGITIS.*

BY S. G. WEBBER, M.D.—AN ESSAY WHICH RECEIVED THE BOYLSTON MEDICAL PRIZE.

[Communicated for the Boston Medical and Surgical Journal.]

ON several occasions an epidemic has prevailed, which, by its fearfully rapid and excessive mortality, has given rise to great terror in the community. Popularly known as spotted fever, its more classic name is cerebro-spinal meningitis. It has also been known by the names "typhus syncopalis," "winter epidemic," "catarrhal fever," "peripneumonia notha," &c.

The symptoms of the disease will be considered first, as exhibited in 164 cases during the last few years, together with its pathology and the most successful mode of treatment. Afterwards, it will be well to review the histories of similar epidemics in the past; the methods of treatment which have been advocated; and from these records discover, if possible, the causes of the disease and its nature.

SYMPTOMS.

At the very commencement, a difficulty is encountered—the disorders of sensation or function caused by the disease are so various that it is impossible to include them all in a single description.

"To describe a disease, so as to be readily recognized by one who has had some acquaintance with it, may easily be done; but so to exhibit or paint a disease, attended with multifarious symptoms, that it may be immediately apprehended by one, upon his first observance of it, is more difficult, especially when it appears, in different cases, in a variety of forms."†

Three varieties of the disease may be recognized—1, where the nervous centres are the principal seat of its action; 2, where its force falls upon the lungs; 3, other cases, involving especially the

* By an order adopted in 1826, the Secretary of the Boylston Medical Committee was directed to publish annually the following votes:—

1st. That this Board do not consider themselves as approving the doctrines contained in any of the dissertations to which premiums may be adjudged.

2d. That in case of publication of a successful dissertation, the author is to be considered as bound to print the above vote in connection therewith.

† Dr. E. North on Spotted Fever.

blood and the integuments, with no marked change in the internal organs.

The first variety has been most prevalent during the late epidemic in this country, cases of the other varieties having been comparatively rare. Its symptoms will therefore be considered first, and subsequently the differences between it and the other varieties will be noticed.

I.—In the first variety, that, namely, in which the nervous centres are most seriously implicated, the attack sometimes commences with the usual precursory symptoms of fever; more frequently, however, the attack is sudden and unexpected; the patient continues his ordinary occupation until interrupted by severe headache, pain in the limbs, the back of the neck or along the spine; or the first symptom of disease may be nausea and vomiting, or a sense of chilliness. Following these abnormal sensations come delirium, great restlessness, nausea and vomiting. The pain in the head, back and limbs continues; fever sets in; the appetite is lost; the thirst is increased; the surface of the body becomes hot, or it may be warm and moist; in some cases it is cold to the touch, and a sense of chilliness is experienced by the sufferer, or the face only is hot and flushed; the conjunctivæ are injected; the pupils are more frequently dilated than contracted, and insensible to light. Sometimes, especially in severe cases, spasms occur on the first day, and stiffness of the muscles of the neck, with retraction of the head. Coma and general collapse are very rare so early in the disease, except in grave cases. Occasionally, petechiæ appear the first day on the body and limbs, not commonly on the face. At the commencement the pulse is often normal, or only slightly increased in frequency; in many instances, however, it is more rapid than in health, and full, though wanting in strength; occasionally thin and hard, or weak and feeble. The respiration is not materially altered. The tongue is but little changed from its natural condition; sometimes it has a white fur and is rather dry. In very severe cases, it may be covered with a brownish fur even on the first day. Not unfrequently the throat is sore, and on inspection is found more or less inflamed; the tonsils may be swollen.

As the disease continues, the symptoms referable to the nervous system become more severe. Headache and pains in the back of the neck, along the spine and in the limbs, if not previously experienced are now felt; and where slight at first may become excessively severe, eliciting cries of agony even from the strong and robust. The surface of the body, especially at the neck and back, becomes tender, so as not to endure pressure. Delirium is a more constant symptom, usually of a talkative or muttering variety rather than wild, though sometimes the patient will struggle to rise from his bed. In place of the delirium, or succeeding it, occur stupor and coma, the patient falling into a heavy lethargy, from which he can be

aroused only with difficulty, and which becomes deeper and deeper till it ends in death. Among other less frequent nervous symptoms are paralysis of some of the limbs, jactitation, subsultus tendinum, floccitation, sleeplessness, moaning and a general trembling, similar to that of mania à potu.

The surface of the body remains hot, or is sometimes cool; it is not very often dry. The pupils continue dilated, are sometimes contracted, or unequal, and insensible to light; rarely there is strabismus. Spasms and opisthotonos continue, or occur where they did not previously exist. Generally, there is nothing noticeable in regard to the decubitus. Petechiæ appear in the course of from two to six or seven days. The pulse is variable, usually more rapid than in health; as death approaches it becomes slower, though at times its rapidity and force are retained until very near the last minutes of life. With the progress of the disease the tongue becomes darker colored and drier, and, with the teeth and lips, is covered with sordes, or it remains white and dry; sometimes it continues moist throughout the attack. Vomiting and nausea occur, but not so frequently as at the commencement. There is usually constipation, passages being obtained only by means of medicines; occasionally diarrhœa exists, which can be easily controlled. The urine is frequently loaded with lithates, and is sometimes secreted in only a small quantity. Cases have been recorded where albumen occurred. Both fæces and urine are often passed involuntarily, when the condition is very low.

These symptoms are probably never all found together in any one case. In very severe cases time is allowed for only a few of them to become developed. The first shock of the attack may be sufficient to destroy life, and only intense headache will be noticed, followed quickly by delirium and coma. The following cases illustrate the rapidity with which the disease may terminate.

Case I.*—"A. B., æt. 19, of good habits and vigorous health, complained in the night of severe pain in the head, and was at daylight found groaning, with his hands pressed upon his abdomen, as if suffering from colic. I saw him immediately; found him groaning, though insensible; paralyzed in one arm and leg; occasionally convulsed in every part except the face; pupils equally and moderately dilated and insensible to light; conjunctivæ of a dull red hue; face darkly flushed; tongue and teeth coated with sordes; pulse frequent and full; breathing stertorous. He continued in the same state, and died in the afternoon."

Case II.†—"When I first saw the patient, he had been sick but two or three hours, and was, at the time referred to, partially unconscious. Would respond, but not readily, to a question asked him; special and general sensation seemed not much impaired; in a few minutes he could not hear. The pupils were now much dilated, and

* Recorded by Dr. William Frothingham, in the American Medical Times, April 30, 1864.
† From Transactions of Illinois State Medical Society, 1864.

did not respond to a strong light; nasal passages insensible to carbonate of ammonia, and lips and tongue to tincture of capsicum. General sensation seemed, if not gone, much impaired; and spasmodic muscular movements ceased first in the upper, last in the lower extremities, and in both sides simultaneously. Diaphragm apparently ceased to act. A few attempts at purely thoracic respiration were made, and the patient ceased to breathe. The heart, however, continued to act well to this period, and did not cease to act until nearly two minutes after respiration ceased."

Case III.—A case of a lady is reported by Dr. Lamb in the *American Journal of Medical Sciences* for July, 1863. "She took her tea as usual, about 7, P.M. At 8, she complained of acute pain in the head, and giddiness. She was carried up to the bedroom in the arms of her husband. Body warm and extremities cold; pulse irregular and intermittent, threadlike; pupils greatly dilated and vision very indistinct; delirious. She became comatose at 4, A.M., and died at noon, about fourteen hours from the first feeling of indisposition."

Another case is related in the same Journal by Dr. Lidell, which was fatal in about five and one half hours. Here excessive pain between the shoulders, like that caused by "pressing a bar of hot iron into his backbone," was the principal symptom. He had three attacks of this, and died during the last one.

Some of the symptoms which have been briefly enumerated in the general description, require a more extended and careful notice.

Among the earliest symptoms have been mentioned those which are most frequent; but so varied is this disease in its manifestations that almost any part may become the seat of attack in the first instance. In one case hæmaturia, with pain in the penis, introduced the disease; in another, the symptoms of a severe cold first attracted attention; in another, tetanus; in a number of instances soreness of the throat was early witnessed.

Pain is almost a constant attendant upon this disease, though varying in position and severity. Usually it is very severe; sometimes it is slight. So severe is it at times as to occasion syncope; and may not death in the fourth case, just related, have been caused by pain alone? Almost every case is accompanied with headache, which is more frequent in the forehead; but the occiput and vertex are not spared. The back of the neck is a very common locality for pain, and so is the spine. The limbs not unfrequently are attacked with it, and in many cases it is confined to the joints, or most severe in them; in one case, as already stated, pain in the penis was among the first symptoms of the attack. Severe colic may be experienced. The character of the pain is often rheumatic, especially when seated in the joints; at other times it is of a burning, stinging character; it is rarely dull and heavy. Closely connected with this symptom, and, indeed, constituting one variety of it, is the abnormal

tenderness of the surface. This is not unusually general, and so exceedingly sensitive does the surface become that the least touch occasions cries of agony, even the bedclothes being insupportable. When local, it is most frequently situated at the back of the neck and along the spine. Sometimes tenderness is observable in the right iliac region, accompanied with tympanites, as in typhoid fever. Tenderness is found also in the epigastrium; it is most frequently experienced late in the disease. There is rarely intermission in the pain—this is particularly the case with the headache; when this symptom has once shown itself, it continues throughout the attack, and even during unconsciousness its existence may be proved by pressure upon the occiput or nucha causing uneasy movements, as if to escape the touch.

Delirium is an almost constant symptom, and sets in early, if the attack is at all severe, even on the first day. It is not usually very wild; but is more frequently of a mild character and often so slight that the patient may be readily aroused sufficiently to answer questions rationally, though as soon as he is left to himself he will relapse into a low moaning or muttering, and perhaps will become quite wild. As the disease continues, the delirium becomes more and more constant, and the difficulty of attracting his attention increases. At length stupor is observed, which may at first be noticed with a feeling of relief by his friends, as they suppose that sleep has brought a remission to his suffering; but after a while it is found that his breathing has changed, or the sleep continues so long that attempts are made to arouse him, and then it is discovered that the sleep is not sleep but coma, which gradually deepens until it is impossible any longer to arouse him, and death occurs.

The senses, especially sight and hearing, are sometimes impaired and not regained until convalescence has been established for many days. The same is true in regard to the use of the limbs.

Spasms are usually of the tonic kind. The muscles of the back or neck are most frequently attacked, and thereby the head is bent backwards; the neck and spine may likewise be curved in the same direction, and complete opisthotonos occur. So great is the force by which this position is maintained, that even under the influence of ether or chloroform it is often impossible to straighten the body. Sometimes the position can be rectified, but then respiration may cease until the opisthotonos is allowed to return. Trismus may occur without any other tetanic symptom. Deglutition is not unfrequently difficult, seemingly from insufficiency of the nervous influence; sometimes it is impossible to introduce anything into the stomach, even the thought of swallowing causing spasms, as in hydrophobia. The toes and thumbs, or either of these members alone, may be curved inwards. Opisthotonos is a symptom of the later stages of the disease.

In connection with spasm, may be mentioned the state of restless-

ness into which the patient usually falls, even upon the first day of the attack. He tosses from side to side of the bed, unable to find rest; he rises and turns over, then returns to his former position, fatiguing himself and his attendants; and even where the weakness is so extreme as to preclude voluntary motion, he will call upon his attendants to turn him, which requires great care, on account of the excessive tenderness. This restlessness is a very constant symptom and a very marked one.

Petechiæ are not always present; when present, they vary from minute spots to blotches an inch or more in diameter, the most usual size being from one to three or four lines. They are of every shade, from light red to livid purple. They are few, or so many as to give rise to a uniform reddish tint, similar to that of scarlet fever. They are usually even with the surface, and when the finger is passed over them cause no sensation of roughness. Occasionally, however, they have been found slightly elevated. They do not disappear under pressure, except sometimes the very lightest colored. They were first observed, in fifteen cases on the first day; in thirteen, on the second day; in four, on the third; in one, on the fourth; in one, on the fifth; in one, on the sixth; in one, on the eighth; in one, on the tenth; and in one, on the eleventh. They occurred most frequently on the limbs and body; on the legs more than on the arms; about as often on the chest as the abdomen; frequently on the face; more rarely on the shoulders, neck and back; in one or two cases there were ecchymoses under the conjunctivæ, similar to petechiæ. Usually, they were round and regular in form, though occasionally irregular, pointed or star-shaped. After their first appearance, they sometimes increase in size with the progress of the disease, and sometimes remain without change until they gradually fade away and disappear. They are mentioned in fifty-two out of one hundred and fifty cases where particulars more or less full are given with regard to the symptoms.

Another eruption, herpes labialis, is not unfrequent about the mouth.

Purpuric eruptions and vibices are also met with, though more rarely.

The face or the surface of the body, instead of being covered with petechiæ, may be of a uniform dusky, livid hue.

The pulse cannot be employed in the usual way as a guide in deciding in regard to the severity of the attack. In the same case it may vary exceedingly, and in a few hours rise or fall a number of pulsations, as many as forty or fifty. In three or four cases an irregularity is mentioned, which "consisted in a frequency of about two and a half, then falling off to one pulsation in the second, and this alternating from four to six times during" the minute. In the majority of cases the pulse is rapid, over 90. It is usually full, but weak and compressible, almost never is it strong and hard. Occa-

sionally it cannot be distinguished from a healthy pulse; sometimes, as in the second case related above, the heart continues to act even after respiration has ceased.

The respiration is usually hurried, often it is difficult, and towards the fatal termination it becomes stertorous.

The *nausea* and *vomiting* seem to depend on the disease of the encephalon. The vomitus consists of the ingesta, or of bile and mucus.

The *tongue* is very variable in its appearance; it may be moist and natural, but is more frequently dry and more or less coated with a whitish or dark colored fur. In some cases it closely resembles the tongue of typhoid fever.

The *bowels* are usually sluggish, and it is necessary to exhibit cathartics. When obtained the stool is not unfrequently dark colored and very offensive. Sometimes it is almost impossible to obtain a movement, and the patient does not seem to suffer from want of it. When there is diarrhœa at the commencement of the attack it can usually be easily controlled; but when it sets in during the later stages it is more difficult to arrest, and often points to a fatal termination.

Occasionally *swellings* and *abscesses* occur during the course of the disease in various parts of the body, or the swelling continues a few days and then subsides without suppuration. Abscesses also occur during convalescence.

Epistaxis, hæmorrhage from the bowels, and other signs of a hæmorrhagic tendency occurred in four or five cases. In three or four women the catamenia appeared too early by a week or ten days.

In three instances pregnant women were the subjects of the attack; one aborted at about the sixth month, the other two carried their children to full term, though threatened with abortion. Both the children were sickly and died; one in the fourth month of diarrhœa, and the other in the tenth month of "pulmonary catarrh."

Not unfrequently after the disease has continued several days hypostatic congestion of the lungs is developed; sometimes it is attended with cough and the expectoration of bloody sputa.

In one or two cases great weight and oppression in the epigastrium were experienced, seemingly like that described by Dr. Miner in his account of the epidemic of 1825.

One sympton which occurs in almost every case, and which is quite characteristic of the disease, has not yet been mentioned. It is debility, which is excessive, and is found to exist in every variety of the disease.

There is some danger of relapse: imprudence in diet or exposure; any cause which produces much mental agitation, may give rise to this accident; care on all these points is therefore necessary during convalescence.

II.—In the second or pneumonic form there is less disturbance of

the cerebral functions; delirium is wanting, though headache may exist. With great debility are found the symptoms, rational and physical, of pneumonia. Petechiæ occur. Opisthotonos is not unusually met with. Only two cases of this form occurred among those recorded; both recovered, both exhibited petechiæ. In one case with the cerebral symptoms pneumonia occurred on the fourteenth or fifteenth day, caused by accidental exposure. In the *Boston Medical and Surgical Journal*, vol. 72, p. 372, is the following in a letter by Dr. J. W. Goodell, upon this disease. "We have had some twenty cases of pneumonia since Jan. 1st, and most of them strongly typhoid; in fact, such a lot of black tongues I have never seen in real typhoid fever." May not these cases have belonged to this second variety?

III.—The third variety is marked by an absence of all the peculiar local symptoms; having the debility, the petechiæ and complications. Two cases occurred, one with suppuration of both parotids, the other with great swelling and excessive tenderness of the right knee; both were without cerebral symptoms; both recovered.

Though these last two varieties have been so seldom observed during late years, they were more frequent during former epidemics, especially the pneumonic form; formerly also sore throat was frequently a symptom of the third variety.

[To be continued.]

COLLODION.*

[Read before the Norfolk (Mass.) District Medical Society, July 11, 1866, by JOHN P. MAYNARD, M.D., of Dedham.]

MY excuse for trespassing a few moments on the short time allotted to our meeting, is in the repeated solicitation that I should condense in a brief paper some remarks upon collodion.

I cannot hope to afford any fresh information on this subject, as its novelty has long since passed away—it being now nearly twenty years since I first introduced it to the profession as a new material for dressing wounds. I was induced to apply it for this purpose from observing the effect of a specimen of gun cotton dissolved in ether, according to the formula of Prof. Schönbein, of Europe, with which I was experimenting to obtain a varnish which would prove impervious to water. Finding it possessed, when applied to the skin, considerable tenacity, it was a very natural inference that it might be made available in surgery; especially if by some variation in Schönbein's formula a still more tenacious solution could be attained, for many specimens of gun cotton then made were but partially soluble. After many experiments I succeeded in obtaining a material adapted to the desired purpose, known by the name of collodion.

* From Κολλώδης, gluey; a name given by Dr. A. A. Gould, of Boston.

This was distributed among surgeons, who confirmed my favorable opinion and experience of its advantages for surgical purposes. At the request of the late Dr. John D. Fisher, of Boston, a paper was furnished him on the subject, which was read before the Boston Society for Medical Improvement. This was followed by a series of articles published in the *Boston Medical and Surgical Journal*, giving a more detailed statement of some of the more important cases in which I had used it during the year 1847. These were the first cases, as far as I am aware, in which collodion was used for surgical purposes.

Since that period it has come into general use, both in this country and Europe. Erasmus Wilson, of England, to whom I forwarded specimens, with an account of my experience in its use, soon after published his commendations of its utility in diseases of the skin, wherein he expresses the opinion that "collodion is likely to occupy an important place among the adjuvantia of surgical practice."* However beneficial it may be in these diseases, my own experience leads me to the belief that it is best adapted to the following purposes.

Incised Wounds.—In those of a limited extent, the immediate application of collodion to the edges of the lips of the wound after being brought into perfect apposition. In those of larger extent by the mediate application of strips of cotton cloth moistened with the collodion. No sutures can possibly keep the edges of an extensive wound in such perfect and permanent union as the collodion thus applied. I have thus used it advantageously in wounds from an inch in length to those of thigh amputations; and almost universally secure union by the first intention.

Harelip.—Owing to the excessive tenacity with which it adheres to the skin I have found it of great service in the operation for harelip, by attaching strips of cloth moistened with it across the lip to each side of the cheeks, rendering all liability to separation of the wound impossible.

Next comes its application to *burns;* in these cases, painted over the surface of the inflamed skin it seems to afford instant relief, effectually preventing the admission of air, supplying an artificial cuticle beneath which the process of reparation by nature is undisturbed.

Among many other purposes to which I have applied it, may be mentioned the removal of *small erectile tumors*, such as nævi materni. I have frequently succeeded in removing these unsightly disfigurations in children where an operation was undesirable. Its repeated application every few days will be found to restore these patches of engorged bloodvessels to their natural color, by its permanent contraction of their contents. I take pleasure in stating that Dr. Brainard, of Illinois, has met with similar success, an account of which was published in the North Western Journal some years ago.

* For a more minute account of his application of it, reference may be made to the *London Lancet*, Nov. 18, 1848.

In *bed sores*, so frequently resulting from long confinement in the horizontal position, I have found collodion to be of great efficacy in protecting the exposed prominences of the emaciated body from painful pressure and preventing the integuments from excoriation. The first case in which I thus used it was that of a young female in the last stages of phthisis, long compelled to remain in a recumbent position, where portions of the hip-bone gave evidence of the result of constant pressure. The collodion was painted over the sensitive skin until a thick coating was produced, which entirely removed all pain and prevented any subsequent tenderness.

By this means the surgeon may at once relieve the *pain in the heel* so common from pressure, in fractures of the leg; in *hernia*, from too strong pressure of a truss. An *aneurism* may be thus coated before its cure is attempted by long-continued pressure. In the tenderness of recently healed *stumps*, where artificial limbs are worn, its application has been found very useful.

Another purpose to which it may be applied is to prevent the pitting of *smallpox*. In this disease I have coated the entire face with it, occasionally renewing it if needed, with the satisfaction of finding, after recovery, when the collodion peeled off, the patient's face perfectly smooth and free from any scar.

In *erysipelas*, I have found it useful in allaying the burning sensation which accompanies the disease—but have not found that it would arrest the progress of the disease or limit the duration of the eruption, which will ordinarily disappear in a week or ten days without treatment. I allude to this, as some physicians have lauded its effects too highly, inferring that they had shortened the disease by its application because the disease disappeared a week after. Surely their cases were instances of coincidence, rather than sequence.

One more surgical use that I have availed myself of, is as an *immovable bandage* in fractures, instead of the ordinary starch bandage—its advantage being in the quickness of its conversion into a firm support for the fractured limb, owing to the rapidity of the evaporation of the ether holding the gum in solution.

The above-mentioned surgical purposes are those to which I have deemed collodion best adapted. What further applications may be made of this material, time only can show. It has already entered the domain of art, and by its aid the photographer furnishes us with those artistic productions that rival the engraver's skill. First came the thin layer of collodion, poured over the surface of glass, called the ambrotype — a vast improvement over the ghastly looking daguerreotype. Now comes the still more beautiful photograph on collodionated paper. Thus has chemistry aided art, as well as surgery, by its curious and peculiar properties, which may yet be adapted to some object of more importance than any yet developed.

Before concluding this imperfect sketch of the origin, nature and uses of collodion, I cannot avoid alluding to a highly improper and

absurd application made of this substance, by coating pills with it to conceal their taste. M. Sourresseau and Mr. Durden have thus used it, either ignorant or forgetful of the fact that it is insoluble in the gastric juice or the intestinal secretions. They might have swallowed with impunity their pills thus coated, and by a careful after search have found them in as good condition, as regards their solvency, as when they were first sent on their fruitless journey. If any have administered pills thus coated and rendered more insoluble than shot, it will be needless to add that any improvement in health which may have followed must be regarded as additional instances of the error of attributing recovery to treatment rather than to nature.

Before closing, it may be pertinent to mention the formula best adapted for surgical purposes. As before stated, in my earliest applications of this substance I used a solution of gun cotton, prepared according to the method of Schönbein. Larger experience and various experiments convinced me a material better adapted to fulfil the wants of surgery could be obtained by departing from the object of obtaining a solely explosive compound, and substituting one that would be completely soluble. I avail myself of this occasion to repudiate the formula purporting to be mine, published in the U. S. Dispensatory, by Wood & Bache, which is unauthorized and incorrect. The true formula, which I have always communicated verbally to any in the profession who have desired it, is the following:

Take two parts of sulph. acid, sp. gr. 1.850, and one part nitric acid, sp. gr. 1.450. Mix them — allow the temperature to fall to about 100 Fahrenheit. Add to this, raw cotton, to point of saturation. Let it soak about one to two hours. Pour off the acids. Wash the cotton till litmus paper shows all acidity removed. Dry thoroughly. The cotton will now be found to be converted into a gum, completely soluble in ether of about .750 sp. gr., or in pure ether 3 parts and alcohol 95 per cent. 1 part. About 2 ounces of cotton thus prepared will make about one pint of collodion of proper consistency for surgical purposes. For photographic objects, a less amount will be sufficient. The conditions for success by this formula are simply precision in the details and careful manipulation, which a little experience will perfect.

Reports of Medical Societies.

MAINE MEDICAL ASSOCIATION.

Amidst the excitement attendant upon the fearful calamity which visited our city on the 4th inst., we have failed to report for your valuable Journal the doings of the Maine Medical Association, which held its session in Portland commencing June 19th, and continuing three days.

This session was one of unusual interest, both from the large at-

tendance and the number and variety of interesting subjects before it. We all felt regrets at the close, inasmuch as we thought we saw more manifestly the "march of improvement" in medical science, as demonstrated by the numerous papers presented bearing upon subjects heretofore considered "debatable ground." The general style of those papers was not of a theoretical character, but clear and practical, establishing conclusively many points heretofore considered doubtful or decried as chimerical and dangerous doctrines.

The morning of the first day's session was spent principally in matters of business; after an appropriate and touching address from that veteran in medicine, Prof. Nourse, of Bath, President of the Association. The afternoon session was really the beginning of the interesting portion of the exercises. Many able and valuable reports and papers were read, and referred to the Committee on Publication, some of which I must refer to particularly.

First, came Prof. Nourse's report upon Compulsory Vaccination, which he had laid before the Legislature, and this body in its profound wisdom had seen fit to lay it upon the table or refer it to the next session.

Drs. Swazey and Foster, from the Committee on Epidemics of the State, each presented a report—the former setting forth the causes producing, and the latter giving the principal epidemics of the year past. The list shows but few of much violence of character.

Dr. Dana presented a very able and interesting paper upon Abortion and the induction of premature labor. He analyzed and discussed the subject in all its bearings, contending that under no circumstances (except to save the life of the mother) is the induction of premature labor justifiable, even from the impregnation of the ovum. Believing, as he did, that life existed from impregnation, it is no less the crime of murder than if committed upon the child after birth. Accompanying the report, several resolutions were presented, embracing the spirit of the views advanced by the writer, which, together with the report, were referred to the Committee on Publication.

Dr. Le Prohon, by leave, read a paper upon the same subject, differing from Dr. Dana in this respect: viz., that admitting, as he did, the views advanced by Dr. Dana, that "the fœtus in utero is as much a living being and endowed with all the attributes of such as the mother herself," under no circumstances would the physician be justified in taking the life of the child, even to save the life of the mother—that it would be murder in any case, and consequently criminal. Much discussion followed these papers—the majority being in favor of the views advanced by Dr. Dana. (In justice to Dr. Le Prohon, it is but fair to say that the above are his religious rather than his professional views--he being a Romanist.) Not having a copy of the resolutions, I am unable to present them at this time. It was voted to request the daily journals of the State to publish them, together with an additional one censuring the press for publishing advertisements of medicines which are well known to be used for procuring abortion.

The evening session was devoted to the annual address, from Dr. Swazey—subject, "The Medical Profession." It was a plain, practical review of the duties, trials and sacrifices of the profession, and an earnest appeal to its members to observe an honorable relation to each other. The various systems of quackery received a sharp dissection.

The morning of the second day was spent in the election of officers and the reading of several papers, among which we would notice that of Dr. Fuller, of Bath, on fractures of the skull and their treatment. The treatment, he contended, should be by early trephining. Dr. Robinson made a verbal report on materia medica, reiterating the views set forth in his report of last year upon the propriety of using opium in diseases of the brain.

The following is the list of officers for the ensuing year: *President*, Dr. S. H. Tewksbury, of Portland; 1*st Vice President*, Dr. A. P. Snow, of Winthrop; 2*d Vice President*, Dr. Theodore Estabrook, of Rockland; *Recording Secretary*, Dr. E. H. Vose, of Gorham; *Corresponding Secretary*, Dr. A. H. Burbank, of Yarmouth; *Treasurer*, Dr. T. A. Foster, of Portland; *Orator*, Dr. G. H. Chadwick, of Portland.

Dr. Tewksbury, from the Committee on Conservative Surgery, exhibited several cases of excision of the knees and other joints, where the operation was perfectly successful, the patients having good limbs.

Dr. Sanger, from the same committee, made a report of numerous cases of excisions of joints, in army practice, showing a large percentage of successful ones over amputations, even so far as life is concerned.

Dr. Gordon, of Portland, from the same committee, read a paper on the "treatment of suppurative inflammation of joints, with a view to prevent anchylosis," substantiating his theory by successful cases from his notes.

The committee on necrology reported the deaths of several members —Drs. Bradbury, Rich and Thomas. Resolutions of sympathy and respect were passed.

In the afternoon Dr. S. Tewksbury read a paper on the application of caustics to the uterine cavity. This paper was one of peculiar interest, inasmuch as it was treading upon comparatively new ground, and was entirely from facts in the Doctor's own experience and much in advance of any known authorities. While writers and teachers had been content with treating diseases of the os uteri and cervix by the application of such remedies, he, reasoning from the liability of the uterine cavity to similar diseases (to a greater extent, from obvious reasons), had found such diseases to exist and had applied the same treatment to the entire cavity. From an extensive experience of several years he had become satisfied that more extensive diseases existed in the cavity of the uterus than at the neck, and that no more harm resulted from the application of caustics, such as acid nitrate of mercury, nit. of silver, tinct. iodine, chromic acid, &c. &c., to the former, than the latter portion. In a report like this, I cannot do justice to the Doctor's paper. Suffice it to say, it was a thoroughly logical one, and was listened to with a great degree of interest, aside from eliciting some discussion.

Prof. H. R. Storer, of Boston, being present, spoke at some length on the subject, fully endorsing the views of Dr. Tewksbury. He also presented several instruments of his own invention, which seem to answer wants long felt in uterine surgery.

Dr. Cutter, of Boston, exhibited several forms of the laryngoscope, and gave some illustrations of its use in the diagnosis of diseases of the throat and nose.

Dr. Carleton, delegate from Connecticut, exhibited several instruments for atomizing medicinal substances, showing their application. Also the use of rhigolene for local anæsthesia, as adopted by Dr. Bigelow.

In the evening the members of the Association were elegantly entertained at the private residence of Dr. S. H. Tewksbury.

The third day was spent in business, and discussions upon the reports upon excisions and conservative surgery, in which many members participated. Dr. Garcelon, of Lewiston, addressed the convention upon the peat and peat bogs of Maine. Dr. Cummings read an interesting paper on pharmacy; Dr. Snow one on the spontaneous cure of ovarian dropsy; other cases in point were cited by different members.

Dr. Foster presented a report on the value of Borden's Extract of Beef. He believed it to be very valuable in all cases where animal broth could not be readily obtained.

After the usual resolutions of thanks, the Association adjourned to meet at the same place on the second Tuesday of June, 1867. G.

PORTLAND, July 24, 1866.

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON: THURSDAY, AUGUST 9, 1866.

REPORT OF THE CHOLERA CONFERENCE AT CONSTANTINOPLE.

THROUGH the kindness of Dr. William E. Townsend, of this city, we have been allowed the opportunity of examining the printed report of the Cholera Commission which held its sessions in Constantinople during the early months of the present year. The document is, in our estimation, one of the most important on the subject of cholera which has ever been issued. It gives the results of the mature deliberations of the Conference, which was in session nearly two months. Recognizing the vast significance of the questions before them, and the importance of thorough and deliberate action, the whole Commission was sub-divided into six sub-committees, to which these questions were distributed for consideration. The report before us is the result of the joint labors of these sub-committees, brought together in a common report. It is a large pamphlet of eighty-three pages, and the various subjects discussed are distributed in thirty-three sections. Each of these sections is prefaced by a question, which is followed by a condensed *resumé* of all the most important facts in the history of cholera, bearing upon the point, with the arguments on both sides of the question. The whole is summed up in each instance with the conclusion of the Commission, printed emphatically in Italics. The vote on each question is also given. We have the impression that this pamphlet was printed for private circulation only, as we have seen no mention of it in the Journals, although the recommendation of the Conference with regard to quarantine has been published. The copy before us came through the hands of an influential friend in Paris, direct from the Secretary of the Conference, Dr. Fauvel. Under these circum-

stances we feel that we cannot offer our readers this week anything so valuable as an abstract of this report. We have translated the questions at the head of each section, with the answer of the Commission in each instance, and the vote upon it. The whole pamphlet is eminently interesting and valuable, and worth translating. The names of the members of the Commission are as follows: The Count de Lallemand, the Count de Noidans and Segovia, *diplomats*, and Drs. Bartoletti, Bykow, Bosi, Dickson, Fauvel, Goodeve, Gomez, Baron Hübsch, Lenz, Maccas, Millingen, Monlau, Mühlig, Pélikan, Polak, Salem, Salvatori, Sawas, Sotto, I. Spadaro, and Van-Geuns.

FIRST GROUP OF QUESTIONS—THE ORIGIN AND GENESIS OF CHOLERA; THE ENDEMIC AND EPIDEMIC PREVALENCE OF THIS DISEASE IN INDIA.

I.—Whence did the cholera, called Asiatic, originally come? And in what countries does it exist in our day in an endemic form?

The Commission with one voice is able to answer without hesitation that the Asiatic cholera, which at different times has run over the whole world, has its origin in India, where it had its birth, and where it exists permanently as an endemic.

Adopted unanimously.

II.—Out of India, does the Asiatic cholera exist in our day in any part of the world in an endemic form?

The Commission considers as demonstrated that the Asiatic cholera, wherever it appears, is never spontaneously developed and has never been observed as an endemic (care must be taken to distinguish secondary foci, more or less tenacious in their character) in any of the countries which have been enumerated (Europe, &c.), and that it has always come from abroad. As for the countries in the neighborhood of India, while admitting it as probable that the cholera does not exist there as an endemic, the Commission does not feel itself authorized to come to any formal conclusion on the subject.

Adopted by all the members of the Commission, except MM. Polak, Sawas and Van Geuns.

III.—Is there any reason to fear that the cholera may acclimate itself in our countries?

The Commission, without rejecting the possibility of the fact, regards it as problematic.

Adopted unanimously.

IV.—Is there in the Hedjaz an original focus of cholera, permanent or periodic?

The Commission is of opinion that Asiatic cholera does not appear to have had in the Hedjaz its original focus, but it appears to have always been introduced there from abroad up to the present time.

Adopted unanimously, except by Mr. Goodeve.

V.—Are there in India certain localities which have the exclusive privilege of generating cholera, or which are more particularly favorable to its development? In other words, is cholera endemic in all parts of India, or only in certain regions which it is possible to circumscribe?

At this time the Commission can only answer that there are in India certain localities, comprised principally in the valley of the Ganges, where cholera is endemic, without being able to point out all of them, or to affirm that they have the exclusive privilege of giving birth to this disease.

Adopted unanimously.

VI.—Do we know the causes by the concurrence of which cholera originates spontaneously in India, as well as the circumstances which make it take on an epidemic character?

The Commission feels obliged to limit itself to answering that we know not the special conditions under the influence of which the cholera breaks out in India and reigns there in certain localities as an endemic.

Adopted unanimously.

VII.—What are the circumstances which concur in the development and the propagation of epidemics of cholera in India?

The Commission believes itself authorized in answering, that pilgrimages are in India the most powerful of all the causes which tend to develope and propagate cholera epidemics.

Adopted unanimously.

SECOND GROUP OF QUESTIONS—THE TRANSMISSIBILITY AND PROPAGATION OF CHOLERA.

VIII.—Is the transmissibility of cholera proved to-day by facts which do not admit of any other interpretation?

Do not all these facts demonstrate conclusively that cholera is propagated by man, and with a rapidity in proportion to the activity and rapidity of his own movements? The Commission does not hesitate to answer in the affirmative.

Adopted unanimously.

The Commission, with unanimity, concludes that the transmissibility of Asiatic cholera is an incontestable verity, proved by facts which do not admit of any other interpretation.

Adopted unanimously.

IX.—Are there conclusive facts which force us to admit that cholera can propagate itself at a distance by certain atmospheric conditions, by winds, or by any other change or modification of the surrounding medium?

The Commission answers that no fact has proved, up to the present time, that cholera can propagate itself at a distance by the atmosphere alone, whatever may be its condition; and that besides it is a law, without exception, that never has an epidemic of cholera extended from one point to another in a shorter time than was necessary for man to carry it.

Adopted unanimously.

X.—How is the importation of cholera effected, and what are the agents of its transmission?

It may be said, without more specific statement for the moment, that if all modes of conveyance from countries affected with cholera are not likely to propagate the disease, it is none the less prudent, at present, to consider all such means of conveyance as suspected. A more detailed examination will settle the question.

Adopted unanimously.

XI.—Under what conditions does man import the cholera?

Man affected with cholera is himself the principal propagating agent of this disease, and a single cholera patient may cause the development of an epidemic.

Adopted unanimously; and—

XII.—The Commission has been led to conclude that certain facts tend to prove that a single individual (with much greater reason many individuals) coming from a contaminated place, and suffering from diarrhœa, is able to cause the development of a cholera epidemic; or, in other words, that the diarrhœa called premonitory is able to transmit cholera.

Adopted unanimously.

XIII.—What is the period of incubation?

In almost all cases the period of incubation, that is to say, the interval between the moment when the individual may have contracted the cholera poison and the commencement of the premonitory diarrhœa, or of confirmed cholera, does not go beyond a few days; all the facts cited of a longer incubation belong to the class where the contamination may have taken place after departure from the infected place.

Adopted unanimously.

XIV.—Can the cholera be imported and transmitted by living animals?

There is no known fact which proves that cholera has been imported by living animals; but it is reasonable, nevertheless, to consider them, in certain cases, as belonging to the class of objects called susceptible.

Adopted unanimously, except by MM. Bykow and Lenz.

XV.—Can cholera be imported and transmitted by linen, clothing, and in general by articles in common use?

Cholera can be transmitted by articles in common use coming from an infected place, and especially by those which have been used by cholera patients; and it also results from certain facts that the disease may be transported to a distance by these same articles when closely shut up from the outer air.

Adopted unanimously.

XVI.—Can cholera be imported and transmitted by merchandise?

The Commission, while admitting with unanimity the absence of proof of the agency of merchandise in the transmission of cholera, admits (by a majority of 16 votes to 6) the possibility of the fact under certain conditions.

The negative votes were those of MM. Bykow, Goodeve, Lenz, Pélikan, Polak and Van Geuns.

In consequence, until more fully informed, the Commission believes that it will be wise to consider as suspected, at least under particular and determined conditions, everything coming (*toute provenance*) from a cholera district.

Adopted unanimously, except by MM. Goodeve, Pélikan and Polak, who declined voting.

XVII.—Can the bodies of patients who have died of cholera import and transmit the cholera?

Although it is not proved by conclusive facts that the bodies of patients dying with cholera can transmit the disease, it is prudent to consider them as dangerous.

Adopted unanimously, except by M. Sawas, who declined voting.

ON THE INFLUENCE OF MEANS OF COMMUNICATION.

XVIII.—What influence do the various modes of communication, whether by land or sea, have upon the propagation of cholera?

The Commission answers, that maritime communications are by their nature the most dangerous; that it is they which propagate most surely cholera at a distance, and that next to them comes communication by railroad, which in a very short time may carry the disease to a great distance.

Adopted unanimously.

XIX.—What is the influence of deserts upon the propagation of cholera?

The Commission, resting upon facts established by experience, concludes that great deserts are a most effectual barrier to the propagation of cholera, and it believes that it is without example for this disease to be imported into Egypt or Syria, across the desert, by caravans from Mecca.

Adopted by all the members of the Commission except MM. Monlau, Pélikan, Polak and Van Geuns, who declined voting.

THE INFLUENCE OF CROWDING.

XX.—What is the influence of crowds upon the intensity of epidemics of cholera, as well as upon the propagation of the disease? and under what conditions does it exercise its influence.

All crowding together of human beings, among whom cholera has been introduced, is a favorable condition for the rapid spread of the disease—and, if this crowding exists under bad hygienic conditions, for the violence of the epidemic among them.

That in this case the rapidity of the extension of the disease is in proportion to the degree of crowding, while the violence of the epidemic is, other things being equal, so much the greater according as individuals have been little exposed to the choleraic influence or not at all; that is to say, in other words, individuals who have already been exposed to the influence of a cholera atmosphere enjoy a sort of relative and temporary immunity which counterbalances the bad effects of crowding.

Finally, in the case of a dense crowd, the more rapid its separation, so much the more rapid is the cessation of the epidemic, at least if new arrivals of unaffected persons do not furnish new aliment for the disease.

Adopted unanimously.

XXI.—What is the intensity and what the tenacity of cholera epidemics on shipboard?

The Commission replies that the intensity of cholera on board ships crowded with men is, in general, proportionate to the crowding, and is so much the more violent, other things being equal, if the passengers have not resided in the focus of cholera from which they started; that on crowded ships the spread of cholera epidemics is ordinarily rapid; finally, the Commission adds that the danger of importation by ships, and that of giving rise to a grave epidemic, are not entirely subordinate to the intensity, nor even to the existence of choleraic symptoms appearing during the voyage.

Adopted unanimously, except by M. Monlau, who declined voting.

XXII.—What influence does the accumulation in lazarettos of individuals coming from a cholera district exercise upon the development of cholera among the people at quarantine and in the neighborhood?

The Commission concludes that the crowding together of people coming from a place where cholera reigns in a lazaretto, has not the effect of producing, among the people at quarantine, a great extension of the disease; but that such a gathering is nevertheless very dangerous for the neighborhood, as it is calculated to favor the propagation of cholera.

Adopted unanimously, except by M. Monlau.

XXIII.—What influence do great collections of men, in armies, fairs, pilgrimages, exercise upon the development and propagation of epidemics of cholera?

The Commission concludes that great gatherings of men (armies, fairs, pilgrimages) are one of the most certain means for the propagation of cholera; that they constitute the great epidemic foci which, whether they march after the manner of an army, or whether they are scattered, as at fairs and in pilgrimages, import the disease into the country which they traverse; that these gatherings, after having been exposed, usually in a rapid manner, to the influence of cholera, become much less susceptible to its power, and that it disappears very speedily, unless newly arrived persons take the disease.

Adopted unanimously.

XXIV.—What is the influence of dissemination upon the intensity and development of cholera epidemics?

The Commission concludes that the breaking up of a collection of people, at an opportune time, may render less violent an epidemic of cholera and even arrest its extension; but that this scattering, on the other hand, gives rise to great danger of propagating it, if it take place in the midst of a region as yet unaffected.

Adopted unanimously.

XXV.—What part belongs to the pilgrimage to Mecca in the cholera epidemics of our day?

The part of the pilgrimage to Mecca, as an agent in propagating cholera as regards the neighboring countries of Europe (the only one with regard to which we have positive information) has been the introduction of this disease into Egypt twice, with an interval of thirty-four years, during the hot season.

Adopted unanimously, except by M. Polak, who declined voting.

The Influence of Hygienic Conditions.

XXVI.—What is the influence upon the violence of cholera epidemics exerted by hygienic and other conditions of locality; in other words, what are the assisting causes of cholera.

The Commission recognizes that the hygienic and other conditions which in general predispose a population to contract cholera, and consequently favor the intensity of epidemics, are: misery, with all its consequences; overcrowding, particularly of persons in feeble health; the hot season; want of fresh air; the exhalations from a porous soil impregnated with organic matters, above all with the dejections from cholera patients.

In addition, the Commission think that, as it appears demonstrated by experience that the discharges of cholera patients contain the generative principle of cholera, it is right to admit that drains, pri-

vies, and the contaminated waters of towns may become the agents for the propagation of this disease.

The Commission adds, that it seems to result from certain facts that the soil of a locality, once impregnated with cholera detritus, is able to retain for a considerable length of time the property of disengaging the principle of the disease and of thus keeping up an epidemic, or even of regenerating it after it has become extinct.

Adopted unanimously, except by M. Pélikan.

Immunity from Cholera.

XXVII.—How is immunity from cholera to be interpreted?

The immunity which certain localities enjoy, that is to say, the resistance, permanent or temporary, general or partial, opposed by these localities to the development of cholera within their limits, is a fact which does not exclude transmissibility, but which indicates that certain local conditions, not yet entirely determined, are an obstacle to the development of the disease.

The same immunity, more or less complete and more or less durable, which the majority of persons in the midst of an infected district enjoy, an immunity which attests the individual resistance to the toxic principle, is a circumstance to which we should attach the highest importance.

In point of view of epidemic development, it is the corrective of transmissibility, and viewed with regard to prophylaxia, it sets in operation proper means to arrest the ravages of the disease.

Adopted unanimously, except by MM. Monlau and Pélikan, who declined voting.

Deductions relative to the Generative Principle of Cholera.

XXVIII.—From the facts above established, and which relate to the genesis, the propagation and the transmissibility of cholera, can we draw any precise conclusion with regard to the generative principle of the disease, or at least with regard to the media which serve as its vehicles, or receptacles; with regard to the conditions of its penetration into the organism, the ways by which it passes out, the duration of its morbific activity, in a word, with regard to all its attributes, a knowledge of which is important to guard against it?

In the actual state of science, we can only frame hypotheses as to the generative principle of cholera; we know only that it originates in certain countries of India, and that it dwells there permanently; that this principle is reproduced in man and accompanies him in his journeyings; that it may also be propagated at a distance, from place to place, by successive regenerations, without ever being reproduced spontaneously outside of man.

Adopted unanimously, except by M. Goodeve, who declined voting.

XXIX.—What are the vehicles of the generative principle of cholera?

Under the name of vehicles, the Commission intends to speak merely of the agents by means of which the morbific principle penetrates the organism. To this question the facts reply that the air is the principal vehicle of the cholera principle. . . . . The action of the cholera miasm is so much the more sure as it operates in a confined atmosphere and near the focus of emission. . . . . It seems that it is with cholera miasm as it is with the miasm of typhus,

which rapidly loses its power in the open air at a short distance from its starting point.

XXX.—To what distance from a focus of disease can the principle of cholera be transported by the atmosphere?

The surrounding atmosphere is the principal vehicle of the generative agent of cholera; but the transmission of the disease by the atmosphere, in an immense majority of cases, is limited to a space very near to the focus of emission. As for the facts cited of transportation by the atmosphere to the distance of one or more miles, they are not sufficiently conclusive.

Adopted unanimously, except by M. Goodeve, who declined voting.

XXXI.—Independent of the air, what other vehicles are there of the cholera principle?

Water and certain ingesta may also serve as vehicles for the introduction into the organism of the generative principle of cholera.

This granted, it follows, so to speak, necessarily, that the passages by which the toxic agent penetrates into the economy are principally the respiratory passages and very probably also the digestive canals. As for its penetration by the skin, nothing tends to prove it.

Adopted unanimously.

XXXII.—What are the principal receptacles of the cholera principle?

The matter of the cholera dejections being incontestably the principal receptacle of the morbific agent, it follows that everything which is contaminated by the discharges becomes also a receptacle from which the generative principle of cholera may be disengaged, under the influence of favorable conditions; it follows, also, that the origin of the cholera germ takes place very probably in the digestive canal, to the exclusion, perhaps, of all other parts of the system.

Adopted unanimously.

XXXIII.—What is the duration of the morbific activity of the generative principle of cholera?

It results from the study of facts, that in the open air the generative principle of cholera loses rapidly its morbific activity, and that this is the rule; but that under certain particular conditions of confinement, this activity may be preserved for an unlimited period.

Adopted unanimously.

Finally, the Commission adopts the following formula:—

Observation shows that the duration of the choleraic diarrhœa, called premonitory—which must not be confounded with all the diarrhœas which exist during the time of cholera—does not extend beyond a few days.

Facts cited as exceptional do not prove that the cases of diarrhœa prolonged beyond that period belong to cholera, and are susceptible of transmitting the disease, when the individual affected has been withdrawn from all cause of contamination.

Adopted by fourteen votes against four, viz., MM. Gomez, Millingen, Mühlig and Salvatori; M. Monlau declined voting.

Here end the labors of the Commission, with regard to the origin, the endemic condition, the transmissibility and the propagation of cholera, and the historic sketch of the march of the epidemic of 1865,

made by a sub-committee of which Dr. Bartoletti was the Secretary, before being presented separately to the conference.

With regard to the different questions placed upon the programme, it is to be said, that by limiting themselves to drawing from facts the consequences which reasonably flow from them, the Commission thinks it has established sure foundations which will enable the conference to pronounce understandingly upon all questions relating to prophylaxia. Signed by A. FAUVEL,

Secretary.

The present report, having been discussed and adopted, chapter by chapter, was approved as a whole by all the members of the Commission.

Constantinople, May 21st, 1866.

Signed by all the members of the Commission.

The above abstract gives, in a condensed form, the substance of a report which confirms in the strongest manner all that this and other journals in this country and abroad have maintained with regard to the communicability of cholera. It is not strange, therefore, that, as is stated by the French press, the Conference adopted the following propositions, presented by the French delegates, as we learn from the *Medico-Chirurgical Review*:—

"To break of all communication — the moment cholera appeared among the pilgrims — between the Arab ports and Egyptian coast, leaving the land route followed by the caravan open for the hadjis for their return to Egypt. In other words, the pilgrims would be obliged to perform quarantine, either in the Hedjaz till the epidemic ceased, or in the desert in the caravan route."

The City Physician's Letter to the Consulting Physicians of Boston.— It will be remembered that a few weeks since the Consulting Physicians of Boston addressed a communication to the city authorities, on the subject of cholera, in which they reflected somewhat severely upon the change of opinion on the part of the City Physician, with regard to the question of its communicability, and to the measures necessary to be adopted for the protection of the community from its invasion. Naturally enough Dr. Read has felt much aggrieved by what seemed to many an uncalled for attack by these gentlemen, and in consequence he has just published a pamphlet in reply to their strictures and theories, in which he arrays an army of facts, the logic of which seems to us incontrovertible, in defence of his opinions. It is a sound, comprehensive argument for the communicability of cholera, well worthy of the careful consideration of every physician; and a valuable contribution to the current literature of the subject.

Simple Device for giving a Vapor Bath.— Messrs. Editors,—I send herewith a rough sketch of a little device of mine which I am using in the treatment of severe chills and other cases when a vapor bath is admissible.

I have found it to answer the purpose admirably, and I believe it will also be a valuable adjunct in the treatment of cholera.

The apparatus is made of tin, the diameter is eight inches, depth (not including cover), four inches.

In using it, I place a pound or so of unslacked lime in the dish, pour a pint of hot water on the lime and place the apparatus between the sheets next to the patient, and the effect in every case, in which I have thus far tried it, has been very satisfactory.

If you think the above worthy a place in the *Journal*, please insert and oblige, Yours truly, J. O. Harris.

Ottawa, Ill.

Dr. Harris's apparatus is a cylindrical tin vessel, eight inches in diameter by four inches in depth, provided with a handle, and a flat cover attached by a hinge, and perforated with numerous holes. Arched strips of tin are fastened to the cover, which passing over from side to side serve as a bridge to keep the bed-clothes from closing the openings. The device seems to us an admirable one, and we have no doubt it will answer an excellent purpose, employed as Dr. Harris suggests.

We have already referred to the Report of a Committee of the Chicago Academy of Sciences on Trichinæ. The following passages from that report, as published in the *Chicago Medical Examiner*, are of much interest:—

"By these tables it will be perceived that we have found trichinæ in the muscles of 28 hogs out of the 1,394 examined. We may therefore conclude that in the hogs brought to Chicago 1 in 50 is affected with trichiniasis in a greater or less degree. We must confess our surprise at arriving at this result, which indicates with little doubt the startling fact that trichiniasis in pork is even more common in this country than in Germany, where it has caused so much suffering and death. For instance, in the city of Brunswick, where a most careful inspection of 19,747 hogs was made in the years 1864–5, only two were found to contain trichinæ in their muscles, the proportion being 1-10,000 against 1-50, as before stated in our county. The comparative immunity from the disease which our own people have enjoyed, undoubtedly results from the habit of cooking meat before eating it, while in Germany it is eaten raw by the poorer classes on account of the high price of fuel.

"It will be also observed by consulting the tables that the specimens examined show great variation in the number of worms infesting them. We have given, indeed, only an approximation to the number existing in a cubic inch in each specimen of muscle, but this approximation is sufficiently near the truth for our present purposes. Our method has been to count the trichinæ occurring in several different portions of muscle, each a cubic tenth of an inch in size, and to multiply the average number by 1,000, to find the number to a cubic inch. By this method we find that only three of our specimens (Nos. 10, 11 and 23) contain over 10,000 to the cubic inch and are therefore as densely infested with the worm as the pork which has occasioned the disasters in Germany. The remaining 25 are infested in a comparatively slight degree, viz.:—from 48 to 6,000 to the cubic inch. The specimen most thickly infested contains 18,000 to the cubic inch, and we have calculated that a person eating an ordinary meal of this pork in a raw state would speedily become a victim to the ravages of not less than 1,000,000 of young trichinæ. In certain cases of death

from trichiniasis, the number found in the muscles of man has been 2,000,000."

With regard to insuring safety in the consumption of pork, the Committee say,—

"But we have in our power much more simple means of insuring safety in the comsumption of pork. It is simply necessary to cook it thoroughly so that every portion of the meat shall have experienced a temperature of at least 160 degrees Fahrenheit. We cannot insist too strongly on this point. Again by properly salting and smoking the meat for at least ten days, the trichinæ should they exist, will certainly be killed. Simple desiccation of the meat, if continued for a period of sufficient length, will also kill them. They will never be found alive in old hams, for instance. On the other hand, mere pickling appears to have very little effect upon the worms."

Local Anæsthesia in a case of Cæsarian Section.—The *Medical Times and Gazette* publishes a case of Cæsarian section successfully performed by Dr. R. Greenhalgh, in which complete anæsthesia was produced by Dr. B. W. Richardson, by means of a large double spray-producer, set in a double-necked eight ounce bottle for holding the ether, and worked by two hand-bellows. In forty-five seconds the insensibility was perfect. No pain was experienced from the incisions through the abdominal walls or the uterus, although the patient experienced the usual suffering from uterine contraction after the removal of the child. The wound healed by first intention, and the woman recovered rapidly.

THE Government authorities at Cologne have issued a circular, cautioning the public against variegated slate pencils. Schweinfort green, which contains arsenic, is used for the green, chromate of lead for the yellow, and red lead for the red varieties. The circular points out the danger of this practice, especially to children, by whom slate pencils are chiefly used.—*Chemist and Druggist.*

VITAL STATISTICS OF BOSTON.

FOR THE WEEK ENDING SATURDAY, AUGUST 4th, 1866.

DEATHS.

	Males.	*Females.*	*Total*
Deaths during the week - - - - - - -	62	65	127
Ave. mortality of corresponding weeks for ten years, 1855—1865	51.9	55.7	107.6
Average corrected to increased population - - - - -	00	00	118.40
Death of persons above 90 - - - - - - - -	0	1	1

MARRIED,—At Brattleboro', Vt., 26th ult., Hon. Alfred Hitchcock, M.D., of Fitchburg, Mass., to Miss Ella M. Clark.

DEATHS IN BOSTON for the week ending Saturday noon, Aug. 4th, 127. Males, 62—Females, 65. Accident, 7—anæmia, 1—inflammation of the bowels, 1—congestion of the brain, 2—disease of the brain, 2—cancer, 4—cholera infantum, 29—cholera morbus, 3—consumption, 13—convulsions, 5—debility, 1—diarrhœa, 5—dropsy, 1—dropsy of the brain, 2—drowned, 1—dysentery, 9—epilepsy, 1—typhoid fever, 4—gangrene, 1—gastritis, 2—disease of the heart, 5—insanity, 1—congestion of the lungs, 1—inflammation of the lungs, 6—marasmus, 3—old age, 3—premature birth, 5—scrofula, 1—suicide, 1—syphilis, 1—teething, 1—tumor, 2—unknown, 1—whooping cough, 2.

Under 5 years of age, 59—between 5 and 20 years, 9—between 20 and 40 years, 25—between 40 and 60 years, 20—above 60 years, 14. Born in the United States, 86—Ireland, 30—other places, 11.